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ABSTRACT

This paper reviews issues surrounding the use of discrepancy in identifying learning disabilities. Since 1976, it argues, discrepancy has been the primary criterion for defining learning disabilities in practice. In a psychometric and statistical sense, however, issues about the best means for calculating a discrepancy remain problematic. Another issue involves divergent findings about how systematically and rigorously the discrepancy criterion has been applied in practice. Despite these issues, the paper demonstrates that learning disability can be reliably differentiated from other conditions and that discrepancy is a major factor in demonstrating the differences. The paper provides information relevant to these issues in seven sections: (1) discrepancy concepts; (2) quantifying ability-achievement discrepancy; (3) discrepancy and the identification of learning disability; (4) discrepancy, learning disability, and low achievement; (5) learning disability and intelligence; (6) quantitative or qualitative differences in learning disability and low achievement; and (7) the status of discrepancy in the identification of learning disability. The paper concludes that discrepancy remains a useful component for learning disability identification; however, discrepancy should not be the sole criterion in identification. It is argued that discrepancy models should be used as part of a more comprehensive identification process. (CR)

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DISCREPANCY MODELS IN THE IDENTIFICATION OF LEARNING DISABILITY

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EXECUTIVE SUMMARY

Introduction

This paper reviews issues surrounding the use of discrepancy in identifying learning disability. Since 1976, discrepancy has been the primary criterion for defining learning disability in practice. In a psychometric and statistical sense, however, issues about the best means for calculating a discrepancy remain problematic. Another issue involves divergent findings about how systematically and rigorously the discrepancy criterion has been applied in practice. Despite these issues, the paper demonstrates that learning disability can be reliably differentiated from other conditions and that discrepancy is a major factor in demonstrating the differences.

Findings

The paper provides information relevant to these issues in seven sections:

- Discrepancy Concepts
- Quantifying Ability-Achievement Discrepancy
- Discrepancy and the Identification of Learning Disability
- Discrepancy, Learning Disability, and Low Achievement
- Learning Disability and Intelligence
- Learning Disability and Low Achievement: Quantitative or Qualitative Differences?
- Status of Discrepancy in the Identification of Learning Disability

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Discrepancy Concepts

By 1968, "specific learning disability" (LD) became a federally designated category of special education (U.S. Office of Education, 1968), and the formal definition has not substantively changed. Furthermore, it does not stipulate procedural guidelines for LD identification. The nature of the definition is primarily exclusive and, consequently, descriptive of what LD is not rather than what LD is. In practice, therefore, it has been necessary to consider factors not stipulated in the formal definition.

One of the first discrepancies investigated was related to the cognitive abilities of students with LD. A number of studies failed to find significant cognitive discrepancies in LD populations. These findings, combined with the desire to reinforce notions about the academic achievement deficits associated with LD, focused attention on the possibility of conceptualizing ability-achievement discrepancies as a feature of LD.

Quantifying Ability-Achievement Discrepancy

With the reinforcement of the idea that a severe discrepancy needs to be demonstrated, individual states were free to choose their own methodology, but the wide variation in procedures chosen introduced a substantial element of arbitrariness to LD identification (Divoky, 1974; Shepard, 1983). The question became one of whether two variables (ability and achievement) can be combined to determine the presence or absence of the LD construct. The theoretical problems were exacerbated by practical difficulties surrounding prediction, a necessary part of discrepancy. The most defensible methods of discrepancy calculation (i.e., standard score and regression equation) remain less than perfect with respect to optimal psychometric and statistical considerations (Willson & Reynolds, 1984-1985).

The unresolved technical problems surrounding discrepancy translate into real-world difficulties. Ross (1990, 1992) found limited capacity among school psychologists to correctly

evaluate ability-achievement difference scores. The potential variability and inaccuracy associated with discrepancy models are made more unsure by findings that show instability in discrepancy scores over time.

Discrepancy and the Identification of Learning Disability

The many vagaries associated with identification are the primary reason for the difficulty in deciding about the presence or absence of LD. The lack of rigor in the diagnostic process has led to an accelerated rate of LD identification and has led LD to become the largest category in special education. Disparities among states were not uncommon and led to the conclusion that the variation in LD diagnostic levels across states is significantly related to distinctions in diagnostic practice in addition to actual disease prevalence. The primary confounding among high-incidence mild disabilities appears to be between LD and mental retardation (MR). Even though discrepancy remains the primary criterion for LD identification, it seems to be ignored in actual practice. Studies have identified large percentages of LD students with lower range IQ scores in the low to low-average range.

Discrepancy, Learning Disability, and Low Achievement

The vagaries of LD classification, especially the inability to differentiate LD and low achievement (LA), have been demonstrated in studies conducted by the University of Minnesota Institute for Research on Learning Disabilities (Minnesota studies). The Minnesota studies appeared to support the view that a reliance on a discrepancy criterion for LD identification may not be defensible because it does not clearly distinguish between LD and LA. Wilson (1985), however, challenged this idea by suggesting that a more generalized classification would do little to eliminate the ambiguities associated with LD.

The continuing debate about the LD-LA distinction began to erode the integrity of LD. However, Kavale, Fuchs, and Scruggs (1994) used meta-analysis to reexamine the Minnesota

studies. They demonstrated how the percent of overlap metric used by Ysseldyke et al. (1982) may have masked real performance differences. On average, it would be possible to reliably differentiate 63% of the LD group. Consequently, Kavale (1995) suggested that the LD group and the LA group "represent two distinct populations."

Learning Disability and Intelligence

Although empirical evidence appeared to indicate that LD and LA could be reliably differentiated on the basis of a discrepancy criterion, questions about its use continued. One form of such questioning about discrepancy focused attention on IQ and whether it was necessary in definitions of LD. A major problem surrounds IQ tests and what they presumably measure. The problem of confounding is most likely to arise when constructs are defined on the basis of multiple criteria with questionable reliability, as was the case with MR. In defining LD, Kavale and Forness (1985) recommended a dual criteria definition similar to MR that included 1) significant subaverage academic impairment and 2) IQ in the average range. The advantage would be that both criteria can be reliably measured and no clinical judgment would be necessary.

Learning Disability and Low Achievement: Quantitative or Qualitative Differences?

The idea of a qualitatively different population existing began with a "hump" found in the MR distribution representing an excess of cases at the lower IQ levels. Similarly, the Isle of Wight studies found an excess of cases ("hump") in the distribution of reading disability. This greater than expected rate of underachievement was associated with specific reading retardation defined by the presence of an IQ-achievement discrepancy.

The idea of specific reading retardation as a qualitatively different group became contentious when studies failed to differentiate specific reading retardation from "garden-variety" reading disability along a number of dimensions. In a summary of the evidence,

Fletcher et al. (1998) concluded that under no circumstances is the wholesale use of IQ tests for LD justified and, consequently, the discrepancy criterion should not be included in LD identification. Classification of children as discrepant versus low achieving lacks discriminative validity. The problem is that in the LD identification process, it is not the score on the IQ test that identifies the child as having learning disabilities, but rather the score on academic achievement. Although this view may be appropriate for discussions about reading disability, it further confounds the LD-LA distinction and diminishes the important role of underachievement in defining LD.

Status of Discrepancy in the Identification of Learning Disability

The discrepancy criterion for LD identification has thus been seriously challenged, with some anticipating its "impending demise" (Aaron, 1997). A major roadblock to resolving problems surrounding LD is the lack of a precise description of LD (Kavale & Forness, 2000). Yet, the LD field has witnessed unprecedented growth and has accomplished this expansion by using not an agreed-on formal definition but rather a number of operational definitions that stipulate rules about how the term *LD* is to apply in a particular case if specified operations or actions yield certain characteristic results.

For LD, the primary operation has been the application of a discrepancy criterion. For LD, a problem is created because the federal definition makes no mention of discrepancy (Kavale, 1993). Consequently, this lack of correspondence between definitions means that essentially two distinct views of LD are being presented: a formal representation described in the federal definition and an operational representation.

A less obvious problem surrounds the different meanings that may be conveyed when different operational indicators are chosen. For example, discrepancy is typically defined as the difference between ability and achievement, but any number of ability (i.e., IQ) measures and

probably even a greater number of achievement measures might be chosen for comparison. The problem is that when different combinations of measures are used to define discrepancy, it is not at all evident that the assessments are operationally, and thus definitionally, equivalent (Deese, 1972). When combined with the demonstrated psychometric and statistical difficulties, the conceptual problems may produce difficulties in "making sense" of the resulting discrepancy.

The deification and reification of discrepancy have obscured some fundamental considerations. One such consideration surrounds the relationship between discrepancy and LD. With discrepancy being the primary criterion used for LD identification, there has been an implicit assumption that discrepancy represents the operational definition of LD. In reality, discrepancy is best associated with the concept of underachievement. Thus, when a student meets the discrepancy criterion, what is being affirmed is underachievement, not LD. Within the context of LD identification, discrepancy and the documentation of underachievement should represent only the initial step in diagnosis (Kavale & Forness, 1994).

When discrepancy is placed in proper perspective along with an understanding that LD was never meant to be primarily underachievement, attention needs to be directed at what else the identification process should consider to capture the complex and multivariate nature of LD (Kavale & Nye, 1991). Kavale and Forness (1995) suggested a way the process might proceed. The initial step is the formulation of a foundation directed at developing a theoretical framework for elucidating the basic nature of LD. From these foundation principles, it would be possible to develop a comprehensive view of LD.

Kavale and Forness (2000) elucidated the process further by proposing an operational definition in the form of a hierarchical scheme in which each level depicts a decision point in the determination of LD. The scheme includes five levels. The first level consists of documenting

an ability-achievement discrepancy to determine the presence or absence of underachievement. The next four levels focus on additional stipulated criteria (e.g., psychological process deficits, exclusion), and a final LD designation is predicated on a student's successfully proceeding through each level.

Conclusion

Discrepancy is an important and legitimate concept associated with LD. Beginning with its status as a measure of educational progress, discrepancy evolved into an index of underachievement. When underachievement is considered an integral component of the LD construct, discrepancy, its operational definition, becomes a factor in the identification process. Although open to debate about statistical and psychometric properties, these issues can be satisfactorily resolved and the discrepancy calculation can be made adequate and appropriate for use in LD identification. Because of its efficiency and convenience, discrepancy has become the primary criterion in the LD identification process, but this status has led to a number of difficulties, most noticeably the confounding between LD and LA. In fact, there is little confounding, and discrepancy remains a useful component for LD identification.

The key point is that discrepancy should not be the sole criterion in LD identification. As the operational indicator of underachievement, discrepancy documents the presence of underachievement, not LD. Because LD and underachievement are not equivalent, the task becomes one of deciding what other factors need to be considered in the identification process to support confidence about the presence or absence of LD. When placed in a larger, appropriate context, arguments against the use of discrepancy in LD identification diminish. It would, therefore, be an error to eliminate discrepancy as a factor in LD determination. The task is to use

discrepancy in a manner in which it is not LD itself but rather only part of a more comprehensive identification process.